

LDSRR / LDWSF
4.8.7
09/17/2015



Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 September 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AMO6

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received two soil samples on September 16, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.


Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AMO6

Enclosures

USEPA SF



1500280

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com

ARI Assigned Number: AM06	Turn-around Requested: 24 HOURS	Page: 1 of 1
ARI Client Company: JORGENSEN FORGE GRP. 206.762.1100	Phone: 206.762.1100	Date: 9/16/15 Ice Present? yes
Client Contact: MILES DYER		No. of Coolers: 1 Cooler Temps: 2.6

Client Project Name: JFOS 3					Analysis Requested						Notes/Comments	
Client Project #:		Samplers: J. LOEFFLER			PCBs by EPA 8082							STAGE 2B REPORTING PER SAP/QAPP
Sample ID	Date	Time	Matrix	No. Containers								
CMP12-B07-1+06	9/16/15	1140	SOIL	1	X							
CMP24-B10-1+05	9/16/15	1155	SOIL	1	X							

[Signature] 9/16/15

Comments/Special Instructions CC: DEE GARDNER AT SOUNDEARTH dgardner@soudearth inc.com	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: JONATHAN LOEFFLER	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/16/15 @ 1338	Date & Time: 9/16/15 1338	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Jorgensen Forge

Project Name: JFDS3

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: AM06

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.6

Time: _____ Temp Gun ID#: 2002505

If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: EA Date: 9-16-15 Time: 1338

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

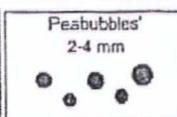
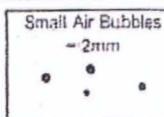
Samples Logged by: [Signature] Date: 9/16/15 Time: 1352

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report



ARI Job No: AMO6
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. CMP12-B07-1+06	AMO6A	15-16466	Soil	09/16/15 11:40	09/16/15 13:38
2. CMP24-B10-1+05	AMO6B	15-16467	Soil	09/16/15 11:55	09/16/15 13:38



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Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.



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- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" (Dioxin/Furan analysis only)
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers. (Dioxin/Furan analysis only)
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. (Dioxin/Furan analysis only)



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Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: MB-091615
METHOD BLANK

Lab Sample ID: MB-091615
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: *MMW*
Reported: 09/17/15

QC Report No: AM06-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 09:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No
Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	109%
Tetrachlorometaxylene	101%

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: CMP12-B07-1+06
SAMPLE

Lab Sample ID: AM06A
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: *MW*
Reported: 09/17/15

QC Report No: AM06-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/16/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.48 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 22.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	Aroclor 1262	18	< 18 U
11100-14-4	Aroclor 1268	18	< 18 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.0%
Tetrachlorometaxylene	85.2%

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1



Sample ID: CMP24-B10-1+05
SAMPLE

Lab Sample ID: AMO6B
LIMS ID: 15-16467
Matrix: Soil
Data Release Authorized: *MW*
Reported: 09/17/15

QC Report No: AMO6-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/16/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:50
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.55 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 20.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	Aroclor 1262	18	39
11100-14-4	Aroclor 1268	18	< 18 U

Reported in $\mu\text{g}/\text{kg}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.2%
Tetrachlorometaxylene	100%

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AM06-Jorgensen Forge
Project: JFOS3

<u>Client ID</u>	<u>DCBP % REC</u>	<u>DCBP LCL-UCL</u>	<u>TCMX % REC</u>	<u>TCMX LCL-UCL</u>	<u>TOT OUT</u>
MB-091615	109%	59-115	101%	58-112	0
LCS-091615	108%	59-115	102%	58-112	0
CMP12-B07-1+06	91.0%	47-120	85.2%	53-116	0
CMP24-B10-1+05	96.2%	47-120	100%	53-116	0

Microwave (MARS) Control Limits PCBSMI

Prep Method: SW3546

Log Number Range: 15-16466 to 15-16467

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-091615
LAB CONTROL

Lab Sample ID: LCS-091615
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: *MW*
Reported: 09/17/15

QC Report No: AM06-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:07
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No
Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	506	500	101%
Aroclor 1260	564	500	113%

PCB Surrogate Recovery

Decachlorobiphenyl	108%
Tetrachlorometaxylene	102%

Results reported in $\mu\text{g}/\text{kg}$ (ppb)

4
PCB METHOD BLANK SUMMARY

BLANK NO.

AMO6MBS1

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE
ARI Job No.: AMO6 Project: JFOS3
Lab Sample ID: AMO6MBS1 Lab File ID: 09171507
Date Extracted: 09/16/15 Matrix: SOLID
Date Analyzed: 09/17/15 Instrument ID: ECD7
Time Analyzed: 0946 GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AMO6LCSS1	AMO6LCSS1	09/17/15
02	CMP12-B07-1+06	AMO6A	09/17/15
03	CMP24-B10-1+05	AMO6B	09/17/15

ALL RUNS ARE DUAL COLUMN

6F
8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.17- 6.37	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB	14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016		LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
Peak	RT WIN	.02	0.05	0.1	.25	0.5	1.0		R ²
1	8.18- 8.38	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2	8.66- 8.86	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3	8.96- 9.16	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4	9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260		LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
Peak	RT WIN	.02	0.05	0.1	.25	0.5	1.0		R ²
1	12.30-12.50	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2	12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3	13.36-13.56	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4	13.46-13.66	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5	13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F
8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.56- 6.76	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB	15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016		LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
Peak	RT WIN	.02	0.05	0.1	.25	0.5	1.0		R ²
1	8.67- 8.87	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2	9.38- 9.58	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3	9.80-10.00	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4	10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260		LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
Peak	RT WIN	.02	0.05	0.1	.25	0.5	1.0		R ²
1	12.90-13.10	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2	13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3	13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4	14.04-14.24	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455
Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541
Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.765	8.67- 8.87	0.03076
2	9.063	8.96- 9.16	0.01109
3	10.298	10.20-10.40	0.01405
4	10.544	10.44-10.64	0.01578
Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.404	9.30- 9.50	0.00882
2	9.848	9.75- 9.95	0.02086
3	10.298	10.20-10.40	0.02446
4	10.543	10.44-10.64	0.02496

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.305	10.21-10.41	0.01523
2	10.625	10.53-10.73	0.02246
3	11.007	10.91-11.11	0.01795
4	11.144	11.04-11.24	0.03393
5	11.858	11.76-11.96	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00821
2	7.471	7.37- 7.57	0.01368
3	7.773	7.67- 7.87	0.00799
4	7.913	7.81- 8.01	0.02412
Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00506
2	7.912	7.81- 8.01	0.01726
3	8.762	8.66- 8.86	0.01985
4	9.890	9.79- 9.99	0.01037
Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.775	8.67- 8.87	0.03253
2	9.481	9.38- 9.58	0.06762
3	10.902	10.80-11.00	0.02930
4	11.343	11.24-11.44	0.02943
Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.472	9.37- 9.57	0.04417
2	10.447	10.35-10.55	0.03719
3	10.981	10.88-11.08	0.03822
4	11.342	11.24-11.44	0.04818

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.213	11.11-11.31	0.04173
2	11.310	11.21-11.41	0.01974
3	11.750	11.65-11.85	0.03299
4	11.901	11.80-12.00	0.06503
5	12.681	12.58-12.78	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.993	12.89-13.09	0.15518
2	13.428	13.33-13.53	0.14324
3	13.656	13.56-13.76	0.29125
4	14.091	13.99-14.19	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.090	13.99-14.19	0.21797
2	14.144	14.04-14.24	0.20396
3	14.454	14.35-14.55	0.16487
4	15.033	14.93-15.13	0.46628

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1254

Time Analyzed :0840

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1254-1	10.31	10.21	10.41	262.1	250.0	4.8
Aroclor-1254-2	10.63	10.53	10.73	284.0	250.0	13.6
Aroclor-1254-3	11.01	10.91	11.11	288.6	250.0	15.4
Aroclor-1254-4	11.14	11.04	11.24	285.7	250.0	14.3
Aroclor-1254-5	11.86	11.76	11.96	270.7	250.0	8.3

AROCLOR AVG: 278.2 CAL %D = 11.3

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1016-1	8.28	8.18	8.38	243.9	250.0	-2.4
Aroclor-1016-2	8.76	8.66	8.86	242.8	250.0	-2.9
Aroclor-1016-3	9.06	8.96	9.16	247.6	250.0	-1.0
Aroclor-1016-4	9.85	9.75	9.95	251.7	250.0	0.7

AROCLOR AVG: 246.5 CAL %D = -1.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1260-1	12.40	12.30	12.50	265.4	250.0	6.2
Aroclor-1260-2	13.08	12.98	13.18	272.3	250.0	8.9
Aroclor-1260-3	13.45	13.36	13.56	271.2	250.0	8.5
Aroclor-1260-4	13.56	13.46	13.66	267.1	250.0	6.8
Aroclor-1260-5	13.96	13.86	14.06	271.1	250.0	8.4

AROCLOR AVG: 269.4 CAL %D = 7.8

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1248

Time Analyzed :1111

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1248-1	9.40	9.30	9.50	259.6	250.0	3.8
Aroclor-1248-2	9.85	9.75	9.95	263.7	250.0	5.5
Aroclor-1248-3	10.30	10.20	10.40	259.4	250.0	3.8
Aroclor-1248-4	10.54	10.44	10.64	267.1	250.0	6.8

AROCLOR AVG: 262.4 CAL %D = 5.0

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
Aroclor-1016-1	8.28	8.18	8.38	243.8	250.0	-2.5
Aroclor-1016-2	8.76	8.66	8.86	243.0	250.0	-2.8
Aroclor-1016-3	9.06	8.96	9.16	248.4	250.0	-0.6
Aroclor-1016-4	9.85	9.75	9.95	250.9	250.0	0.4

AROCLOR AVG: 246.5 CAL %D = -1.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
Aroclor-1260-1	12.40	12.30	12.50	265.4	250.0	6.2
Aroclor-1260-2	13.08	12.98	13.18	262.2	250.0	4.9
Aroclor-1260-3	13.46	13.36	13.56	259.5	250.0	3.8
Aroclor-1260-4	13.56	13.46	13.66	253.8	250.0	1.5
Aroclor-1260-5	13.96	13.86	14.06	257.0	250.0	2.8

AROCLOR AVG: 259.6 CAL %D = 3.8

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1254

Time Analyzed :0840

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1254-1	11.21	11.11	11.31	248.9	250.0	-0.4
Aroclor-1254-2	11.31	11.21	11.41	252.3	250.0	0.9
Aroclor-1254-3	11.75	11.65	11.85	255.0	250.0	2.0
Aroclor-1254-4	11.90	11.80	12.00	249.3	250.0	-0.3
Aroclor-1254-5	12.68	12.58	12.78	244.8	250.0	-2.1

AROCLOR AVG: 250.1 CAL %D = 0.0

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1016-1	8.77	8.67	8.87	237.4	250.0	-5.0
Aroclor-1016-2	9.48	9.38	9.58	243.2	250.0	-2.7
Aroclor-1016-3	9.90	9.80	10.00	245.5	250.0	-1.8
Aroclor-1016-4	10.45	10.35	10.55	189.6	250.0	-24.2

AROCLOR AVG: 228.9 CAL %D = -8.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1260-1	13.00	12.90	13.10	226.1	250.0	-9.6
Aroclor-1260-2	13.66	13.56	13.76	230.1	250.0	-8.0
Aroclor-1260-3	14.09	13.99	14.19	223.9	250.0	-10.4
Aroclor-1260-4	14.14	14.04	14.24	227.8	250.0	-8.9

AROCLOR AVG: 227.0 CAL %D = -9.2

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1248

Time Analyzed :1111

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
=====	=====	=====	=====	=====	=====	=====
Aroclor-1248-1	9.47	9.37	9.57	240.5	250.0	-3.8
Aroclor-1248-2	10.45	10.35	10.55	193.2	250.0	-22.7
Aroclor-1248-3	10.98	10.88	11.08	237.7	250.0	-4.9
Aroclor-1248-4	11.34	11.24	11.44	234.5	250.0	-6.2

AROCLOR AVG: 226.5 CAL %D = -9.4

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AM06

Project: JFOS3

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
Aroclor-1016-1	8.77	8.67	8.87	236.5	250.0	-5.4
Aroclor-1016-2	9.48	9.38	9.58	242.2	250.0	-3.1
Aroclor-1016-3	9.90	9.80	10.00	243.0	250.0	-2.8
Aroclor-1016-4	10.45	10.35	10.55	189.1	250.0	-24.4

AROCLOR AVG: 227.7 CAL %D = -8.9

Date Analyzed :09/17/15

Lab Standard ID: AR1660

Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW		CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
		FROM	TO			
Aroclor-1260-1	13.00	12.90	13.10	231.3	250.0	-7.5
Aroclor-1260-2	13.66	13.56	13.76	230.1	250.0	-7.9
Aroclor-1260-3	14.09	13.99	14.19	214.7	250.0	-14.1
Aroclor-1260-4	14.14	14.04	14.24	218.5	250.0	-12.6

AROCLOR AVG: 223.7 CAL %D = -10.5

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

ID: 0.53 (mm)

Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

					IS1	RT	IS2	RT
					AREA		AREA	
=====					=====	=====	=====	=====
					ICAL MIDPT			
					UPPER LIMIT			
					LOWER LIMIT			
					=====	=====	=====	=====
CLIENT	LAB	DATE	TIME	IS1	RT	IS2	RT	
SAMPLE NO.	SAMPLE ID	ANALYZED		AREA		AREA		
=====	=====	=====	=====	=====	=====	=====	=====	
01	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102	
02	0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102	
03	0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102	
04	0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102	
05	1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103	
06	0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103	
07	0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103	
08	AR1242	08/03/15	1945	6219986	3.265	5066767	15.103	
09	AR1248	08/03/15	2007	6249050	3.265	5356854	15.103	
10	AR1254	08/03/15	2028	6326911	3.267	5032449	15.103	
11	AR2162	08/03/15	2049	6246099	3.266	4938617	15.103	
12	AR3268	08/03/15	2111	6259531	3.265	5003661	15.103	
13	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103	
14	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103	
15	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103	
16	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103	
17	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103	
18	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102	
19	ZZZZZ	09/17/15	0715	6911781	3.261	5708686	15.095	
20	ZZZZZ	09/17/15	0736	9352865	3.261	6538565	15.094	
21	ZZZZZ	09/17/15	0757	7250319	3.278	5643036	15.094	
22	ZZZZZ	09/17/15	0818	8317948	3.273	5780200	15.095	
23	AR1254	09/17/15	0840	8865813	3.276	6823317	15.095	
24	AR1660	09/17/15	0901	8353074	3.279	6172946	15.096	
25	AMO6MBS1	09/17/15	0946	7334837	3.237	5622694	15.093	
26	AMO6LCSS1	09/17/15	1007	7562813	3.262	5761936	15.094	
27	CMP12-B07-1+	09/17/15	1028	7549776	3.271	4700128	15.095	
28	CMP24-B10-1+	09/17/15	1050	7309118	3.274	4974244	15.096	
29	AR1248	09/17/15	1111	10670433	3.277	7976415	15.096	
30	AR1660	09/17/15	1132	8566609	3.278	6444618	15.096	

IS1 = 1-Bromo-2-Nitrobenzene

RT Window = RT +/- 0.1 min

IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB35 ID: 0.53(mm)

Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

				IS1	RT	IS2	RT
				AREA		AREA	
=====				=====	=====	=====	=====
ICAL MIDPT				12901249	4.365	7598346	15.906
UPPER LIMIT				25802498	4.465	15196692	16.006
LOWER LIMIT				6450624	4.265	3799173	15.806
=====				=====	=====	=====	=====
CLIENT	LAB	DATE	TIME	IS1	RT	IS2	RT
SAMPLE NO.	SAMPLE ID	ANALYZED		AREA		AREA	
=====							
01	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02	0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03	0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04	0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05	1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06	0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07	0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08	AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09	AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10	AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11	AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12	AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19	ZZZZZ	09/17/15	0715	12407456	4.348	7070938	15.903
20	ZZZZZ	09/17/15	0736	15218750	4.366	8646569	15.904
21	ZZZZZ	09/17/15	0757	12088231	4.379	7265032	15.904
22	ZZZZZ	09/17/15	0818	14001915	4.381	8057046	15.904
23	AR1254	09/17/15	0840	15110619	4.384	9360168	15.905
24	AR1660	09/17/15	0901	14457436	4.388	8857258	15.906
25	AMO6MBS1	09/17/15	0946	12813597	4.320	7555443	15.899
26	AMO6LCSS1	09/17/15	1007	12946274	4.368	7741969	15.904
27	CMP12-B07-1+	09/17/15	1028	11824939	4.378	6302950	15.905
28	CMP24-B10-1+	09/17/15	1050	12176985	4.384	6517878	15.905
29	AR1248	09/17/15	1111	17929879	4.387	10130221	15.906
30	AR1660	09/17/15	1132	14800919	4.388	8302187	15.906

IS1 = 1-Bromo-2-Nitrobenzene
IS2 = Hexabromobiphenyl

RT Window = RT +/- 0.1 min

* Indicates value outside QC Limits

FORM VIII PCB